DOCUMENT RESUME

ED 267 398 CS 209 503

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TITLE Answers That Raise Questions: Report on a Survey of Computer Use in Composition Instruction.
PUB DATE Nov 85
NOTE 16p.; Paper presented at the Annual Meeting of the National Council of Teachers of English (75th, Philadelphia, PA, November 22-27, 1985).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Anxiety; Classroom Techniques; *Computer Assisted Instruction; Courseware; Higher Education; Microcomputers; *Teacher Attitudes; *Use Studies; *Word Processing; *Writing Instruction; Writing Processes; *Writing Research

ABSTRACT

Ninety-one college writing teachers completed a questionnaire about the extent of their computer use, computers and the writing process, advantages and disadvantages of computer use, problems encountered and suggested solutions, and future directions. Among the findings are the following: (1) The majority of those involved in computer assisted instruction (CAI) did not have computers available in their classrooms; they either scheduled special classes in the computer lab or just required students to use computers outside of class. (2) Presence or absence of support facilities was rarely mentioned as a serious drawback. (3) Few teachers made use of computers at the planning stage in the writing process, while most of those who required computer use at all required it for the production of the final draft. (4) Few teachers found the computer useful for teaching grammar. (5) Teachers are looking for more good software. (6) Advantages of CAI noted by the teachers were intangibles--atmosphere, motivation, paradigm shifts, and so on, while disadvantages centered around time and money. and (7) Problems with CAI are usually caused by apprehension on the part of teachers rather than students. (HOD)

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ANSWERS THAT RAISE QUESTIONS:
Report on a Survey of Computer Use in Composition Instruction

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To dispell any unwarranted expectations on your part, I thought I'd preface my presentation with a warning from Ibsen: "I'm here to question, not to answer." I had hoped, when I set out to survey writing teachers who were using computers in their composition instruction, to come up with some answers that might help me, as well as other teachers just beginning to use the new technology, avoid common pitfalls by getting some general consensus on do's and don'ts. I not only came up with some answers, I came up with many answers; what I didn't find was consensus. Instead, the range of survey responses raised as many questions as they answered, and it is both the questions and the answers which I'd like to share with you today.

Background:

Last January I sent out 223 questionnaires to members of the Fifth C, (the CCCC special interest group on Computers), to the participants of the Spring 1985 Conference on "The Written Word and the Word Processor" held at Villanova University, and I also included one in the February 85 Computers and Composition Newsletter. Of the 109 questionnaires returned, 91 were complete enough to be usable, a response rate of 41% (with the handful of returns I got from the Newsletter questionnaire counted in.) Responses came from 34 states and Canada. Sixteen of the respondents teach at two-year institutions, 72 at four year colleges, and three fall into the "other" category.

Student writing skill level corresponded roughly to the break-down between 2- and 4-year institutions: 20% of the teachers responding reported that they worked primarily with students with remedial writing skills and the other 80% with average or above-average students. Three-quarters of all respondents were working with students aged 17-21. Be aware, then, that much of what I report comes from teachers working with traditional, college-aged students of average writing ability. I'm not sure what kind of generalizability it has to other teaching environments; that's one of the questions this survey raised for me.

Each of you has a copy of my questionnaire results, so that you can see the summarized data. Since there isn't time this afternoon to comment on all items in the summary, I will limit my discussion to information I gathered in five categories: (1) extent of present computer use; (2)

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computers and the writing process; (3) advantages and disadvantages of computer use; (4) problems encountered and suggested solutions; and (5) future directions.

(1) Extent and Kind of Computer Use:

Computer-assisted composition is a term that covers everything from courses actually built around word processing and other computer technology to courses where teachers do nothing more than suggest that students would benefit from using a word processor at some stage of their writing. Even with this broad definition, only 1/3 of those responding said more than 10% of the sections at their institution were making use of CAI. The only schools mentioning across-the-board programs were Colorado State, University of Minnesota, Goucher, Clarkson, and Drexel.

I was interested to learn that the majority of those involved in CAI did not have computers available in their classrooms; they either scheduled special classes in the computer lab or just required students to use computers outside of class. Those who schedule class in the computer lab apparently do not do so very frequently: more than 2/3 of the respondents said that students spend 5% or less of their class time working with computers. Translating these figures into hours for a typical semester-long class, meeting 3 hours a week for 15 weeks, we have the average student using the computer in the classroom for a maximum of 4 1/2 hours out of the total 45 hours of class time. (This 4 1/2 hours includes both initial instruction on computer use and any other classroom use. Moreover, it probably occurs more toward the beginning of the semester, since almost 3/5 of the teachers said they teach necessary computer skills only in the beginning of the semester.)

Is this making adequate use of the computer as a teaching tool? Can such a short exposure really bring about the attitude changes teachers claim to result when computers are introduced into the writing process? Might protecting and separating our "time for teaching writing" from our "time spent teaching computers" weaken the effect of both?

Presence or absence of support facilities was rarely mentioned as a serious drawback. In fact, those of you who feel you have less than optimum support facilities for students outside of class time can take heart from the range of answers I received when I asked about this aspect. Teachers are getting by with support ranging from going to another school (Judith Bechtel, N. Kentucky U., who reported they have had to use a computer lab at a nearby vocational school) to the other end of the spectrum: teachers having an independent study lab with instructors always available

to answer questions (Karen Love, Western Wyoming College), or a 7 day a week, 8am to 10 pm consulting and phone hotline at Drexel. For teachers just beginning to conceptualize the support system you will need, give some thought to all the possibilities: students can be used, both formally as lab aides and informally as informed peers; paid staff can be used, either people familiar with both writing and computers (ideally) or just the computers and software students will be using; phone consultants are good ideas for decentralized campus use; teaching assistants can add this to their duties; the writing teacher can be available for support (Valden Madsen of Brooklyn College,for instance, holds office hours in the computer lab following the class meeting; Carol Falk, Concordia College, reports she is available by phone in her office, where she has a computer available). Note, too, that most teachers found the need to write their own handouts and manuals, synthesizing the necessary information on the computer, the software and the printer in one easy-to-understand source and in a style that their students can understand.

(2) Where computers fit into the writing process:

If you look at question 18 on your handout, you can see the numbers of teachers requiring or suggesting that students use computers during the various stages of the writing process. Eleven teachers <u>required</u> that the students use computers for all stages, 17 did not require use at <u>any</u> stage, and the rest were variations. As you see, few teachers made use of computers at the planning stage, while almost everyone who required computer use at all required it for the production of the final draft. Do these figures reflect the lack of appropriate software for earlier stages of the writing process or do they reflect the lack of availability of computers which necessitates limiting their use to where they can be most effective? Can we be sure we're showing the students that computers are anything more than an efficient typewriter? Should we be?

When asked to rate the usefulness of computers for teaching grammar, idea generation, first draft writing, revision, and proofreading, teachers responded in the numbers you see summarized in question 19. Responses raised some interesting questions. Might the numbers for grammar, for instance, (16 extremely useful, 21 somewhat useful, 32 of little use) reflect the current prejudice against teaching grammar at all in a composition course rather than a judgment against computer worth in teaching this subject? Whatever the reason, this is the only category in which more people found computers to be of <u>little</u> use than <u>somewhat</u> or <u>extremely</u> useful, an interesting result considering the fact

that there seems to be much more grammar software on the market than software of other types.

The numbers in the idea generating categories are the only ones that are almost equal across the board. Does this reflect people's different experience with good, satisfactory, and poor hardware, or is this an area where people just aren't sure?

While about 2/3 of those answering found computers extremely useful in teaching first draft writing, about 1/3 found it only somewhat useful. It would be interesting to know whether that correlated at all with the students' typing abilities, since this is a matter for which conflicting claims are made.

The only clear area of consensus was that the computer was extremely useful in revision (75 - 6 - 0). If this is so, however, and certainly all the literature claims this as a given, why do so few people (only about half) require use at this stage? Should we be forcing students to do something if we know it to be beneficial?

Teachers are clearly looking for more good software. When asked to name the most needed piece of software they would like to see developed for classroom use, it was quite evident that no piece of software has reached "state of the art" status. Rick Delano of Villanova expressed the thoughts of many teachers, apparently, when he wrote that he wanted "something interactive that is intelligent--I don't care if it deals with fiction, poetry, drama, or mechanics--." Teachers seem to feel that we're still a long way from the "intelligent computer-assisted tutor of rhetoric," the "electronic Socrates" that Hugh Burns describes so persuasively in "The Challenge for Computer-Assisted Rhetoric" in Computers and the Humanities 18 (1984).

If you're thinking you might want to develop your own software, you'll have a lot of company. About 2/3 of the respondents had either already developed their own software or were planning to do so in the future. But a word of caution is in order; the company you'll be joining is a frustrated one! When teachers experienced in writing software were asked what advice they had to offer to those thinking about developing their own, the main advice was "don't." A typical response is the following from Jack Jobst, Michigan Tech, "Be prepared to spend years on it, unless you are unemployed." James Strickland, from Slippery Rock, backs this up. He suggests that teachers should see if something's available commercially that can be modified. The problem is, as several people commented, one doesn't just need to know how to program; one needs to know how to program well. As Valerie Arms from Drexel cautioned, "Don't

try to use a beginner's skill to offer students who are used to sophisticated games." Several respondents suggested trying the team approach instead of trying to do everything yourself. For those intending to persevere, warnings notwithstanding, Cynthia Selfe of Michigan Tech noted that she's writing a book on how to write software and suggested that people contact her if they're interested. And Rosanne Osborne (Louisiana) recommended that NCTE or a similar organization, run a conference on writing software.

One interesting aside before leaving this topic: When I looked at the what kind of software teachers wanted in relation to the skill level of students they taught, I found that 7 of the 11 respondents who reported teaching above-average level students said they did not need <u>any</u> special software developed. Are good students just easier to teach? Or, are teachers on advanced levels working more with the possibilities of word processing rather than using other types of software? Why is this group more satisfied than the others?

(3) Advantages and disadvantages of computer use:

Despite software limitations, teachers were enthusiastic about computer use. As the summary in question 22 states, the main advantages noted for computer use in teaching fell into five general categories: ease of revision, opportunity for patient and individualized feedback, teacher freedom to deal with more substantive issues than surface faults, the way in which computer use helps students to view the whole writing process differently, and the way computers motivate students to like writing more. Teachers who just began using computers in their courses in 1984 stressed ease of revision, legible essays, and students' new understanding of and appreciation for the writing process. A typical comment was that of Deborah Rubin (Nassau Community College, NY): "The word processor allows students to rewrite without recopying. This means (1) they don't generate new errors through boredom or carelessness in recopying; (2) they <u>must</u> consider my comments and their errors. Also,the product is legible."

Teachers who reported their first use of computers in teaching between 1980 - 84 agreed with these advantages and added several others. They stressed that computers can eliminate repetitive tasks for both student and teacher, free teacher to individualize, encourage collaborative learning, provide orthographic neutrality, help students past writer's block, help teachers in research, and bring writing instruction into the modern world.

Teachers who began work with the computer prior to 1980 stressed also the advantages offered the researcher. Cynthia Selfe, in a forthcoming book, summarizes the capabilities of computers as their ability to recognize, count, store, branch, evaluate, keep time, repair, change, be consistent, and be available." Bradford Morgan and James Schwartz, South Dakota School of Mines and Technology (and editors of Research in Word Processing Newsletter) also emphasize the quantitative and research advantages of computers: "Computer-facilitated efforts in teaching allow us to save time and labor, solve problems, provide a quantitative orientation to processes, orient ourselves in an MBO fashion, evaluate our progress, measure ourselves against norms, and plot directions.

It was interesting to compare the kinds of disadvantages teachers listed with the advantages noted above. The main distinction that arose was that most advantages noted were intangibles-- atmosphere, motivation, paradigm shifts and the like. Disadvantages, on the other hand, for the most part centered around two very practical problems: time and money. It costs money to obtain software and hardware, which limits access, and it takes time to learn how to operate computers, which limits how much of the computer's potential we can use while still meeting our curriculum objectives.

New teachers found access to be the main problem; they also mentioned that, as Elizabeth Otten of Northeast Missouri State put it, "it makes junk look professional" (a problem for teacher and student alike.) Teachers who had been working with CAI for a longer time also noted a problem the newer teachers had not yet had the opportunity to experience: mechanical breakdowns. As Charles Smith (Colorado State) wrote: "Down time and other mechanical failures introduced a new sense of vulnerability into the composition classrooms."

(4) Present problems and solutions:

Question 24 asked teachers for advice on avoiding problems which the respondents had encountered around student, equipment, and curriculum needs. The most common advice on how to avoid student-related problems was to develop user-friendly software, documentation, and instruction. Be aware that more documentation may be needed than just a short summary of important commands. Charles Smith wrote from Colorado State University, where they're working with Writers Workbench, that he has written two on-line tutorials to help students learn word processing, one to teach basic skills and one for the curious or the

advanced user; a terminal manual to direct students through the sequences, a student manual to help with interpretation of Workbench output, and (with a colleague) a lab assistant's manual to improve the quality of assistance students receive. Several teachers said they now avoid earlier problems by demanding at least minimum typing skills, while others mentioned that they require students to have some knowledge of the computer before entering class. Kenneth Everard from Trenton State, for instance, noted that they have created competency exams and one-credit courses; by September 1976 all incoming students must show competency in word processing, keyboarding skills, spread sheet, and data base programs. For those teachers, on the other hand, who will be providing the students' only orientation to computers in class, the lesson learned by Dean Memering (Central Michigan University) is "take your time." He recommends going slowly when introducing the machines and software, and said that it takes three weeks for students to become comfortable and adept on the machines. A number of teachers noted that scheduling problems had to be worked out. One interesting piece of advice sent by several experienced teachers was that they have learned to take advantage of the computer's potential for collaborative learning and do more group work. Randy Smye from Sheridan College in Ontario urged the new teacher: "Don't let the virtues of computers' private composition space blind you to the possibilities of social learning via new techniques."

When asked about problems encountered with students and computerphobia, many agreed with Mike Southwell, author of Little Brown's Grammar Lab: the problem, if there is any, usually is caused by the fears of the teachers, not students. Age of students did not seem to make any significant difference, although Carolyn Gordon of Cuyahoga Community College in Ohio found computer anxiety to be something of a problem with her women students over 40. She found this population to need a lot of encouragement and stroking--as she put it, "a little high touch, figuratively, with the high tech."

A number of helpful suggestions were passed along about how to avoid problems with equipment and software. Alma Nugent of Goucher suggested: "Have more printers. Most people I've talked to say the same thing--they miscalculated the number of printers by assuming fewer rather than more would suffice." Several respondents agreed with Gail Hawisher of the University of Illinois, who recommended teachers have a disk available for each student, to avoid the cumbersome process of passing write-protected disks. Several noted that they had to rearrange the lab, add larger tables, or change rooms for a better teaching environment.

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Details like maintenance and up-grading of equipment must also be kept in mind; Hugh Burns suggests that you plan to upgrade equipment every three years. (Of course this raises the question "to what and with what?" but that's another problem!)

Two conflicting perspectives emerged about how to avoid problems with curricular issues. On the one side, advice stressed the necessity for not allowing computer use to interfere with what Kate Kiefer (Colorado State) calls the "integrity of the course". On the other hand, the teacher should try to use the full potential of the computer. Harriet Spitzer, New York Institute of Technology, wrote that "the course structure needs to reflect a "computer" course--not a "text" course. Writing takes longer on a computer and the course has to accommodate this and other changes." Barbara West, Weber State, agrees, saying "more work needs to be done to integrate computers into the writing process; they should not just be a word processing/convenient tool." Or should they? I guess that what new teachers need to learn from this disagreement is not which side is "right" but which approach they support, since this will influence the way in which they set up their course.

(5) Future directions:

Finally, knowing that our reach is supposed to exceed our grasp, I had ended my questionnaire with an item designed to see what composition teachers were dreaming about. Some of the dreams outlined were those common to all writing teachers: time to teach all they needed to teach; time to do research; motivated students who would arrive, as E.M.Jennings, U. of Albana/SUNY, fantasized, without preconceptions that make their writing "academic." Betty Moffett, of Grinnell, probably stated the ultimate dream of a world in which she could teach "one on one with a single, enthusiastic, talented student per semester." She did add, I must admit, that in such a case "pen and pencil would be sufficient equipment."

When describing utopia in more technologically-oriented terms, however, the main point of agreement was that, in the best of all possible worlds, students would have access to computers both <u>at school</u> --preferably one computer per student in the classroom or lab--and <u>outside of school</u>--students would own or lease their own micros. It will be interesting to see how the reality of schools like Drexel and Clarkson measures up to this dream. How does this model stand up against schools like Goucher or Colorado State that provide access through terminals to a mainframe?

What are other solutions being tried, especially in schools with large commuter populations? (Dave Humphries, at Cuyahoga Community College, for instance, runs a program which leases NEC portables to developmental students for $10 a semester. What are other schools doing?)

In addition to computers, the ideal classroom of tomorrow would apparently be one filled with peripherals. One common desire was for a classroom in which the students and teacher were linked by a Local Area Network, with everything hooked up to a large monitor for demonstration purposes. (Since this kind of equipment obviously already exists, I guess the utopian element comes in having money and administrative support to purchase the equipment.) A number of respondents also included modems in their ideal teaching situation, picturing students and teachers being able to correspond via computer about various stages of the writing process outside of the classroom setting. This also is technologically if not financial available for all; Dennis Horn of Clarkson wrote that he was planning to offer a course last summer that would allow students to write their papers at home and transmit them via electronic mail. His corrections and comments would be handled in the same way.

I guess the main impression I got after reading through all of the the survey responses was that in theory we accord computers virtually unlimited potential as a teaching and writing tool. In practice, however, we are barely beginning to explore that potential. Part of the problem comes from inadequate equipment (especially software), time, and support, and part may come from the fact that there is no one definition of how much equipment, time, and support <u>is</u> adequate. There seems to be no more consensus on how to use computers to teach writing than there is on how to teach writing in general. People are, however, making do with whatever they have, learning the advantages and disadvantages. And, most importantly, they're excited about what they're doing. It will be interesting to see what next year's NCTE Conference brings.

QUESTIONNAIRE RESULTS:

Computers in Composition Instruction

Questions 1 - 3: Population:

223 questionnaires were distributed, including one published in the February 1985 issue of Computers and Composition Newsletter. 109 questionnaires were returned, a 49% return rate. Of the 109, 91 were complete enough to be usable. Responses came from teachers in 34 states plus Canada.

18% came from two-year colleges, 79% came from four year colleges, and 3% came from other sources.

Question 4: Student writing skill level:

remedial 20% average 53% above average 27%

Question 5: Average student age:

17-22: 74% 22-30: 23% over 30: 3%

Question 6: When did you first use computers in your teaching:

1984: 18% 1980-1984: 64% prior to 1980: 18%

Question 7-8: What kind of computers do you use:

Of the 137 responses (a number of teachers mentioned several kinds), 40 used Apple [most mentioned the IIe when they mentioned a specific model], 35 used IBM [almost all mentioned the PC when they mentioned a specific model], and the rest mentioned 37 other varieties of mainframes and micros. In this last group, only the DEC Rainbow (6), the VAX (7), the Commodore 64 (5), and the TRS 80 (4) were mentioned more than twice.

The majority indicated that computers were not available in the classroom; they either scheduled classes in a computer lab or just required students to go to a lab to use them. One-fourth of the respondents, however, did indicate that they had classrooms available with a computer for each student.

Question 9: How many sections of computer-assisted composition are currently being taught at your school:

Because of the wording for this question, responses were difficult to tabulate. Some teachers interpreted CAI to mean actually building coursework around word processing and other software while others considered a section to be computer-assisted composition if they suggested students do their papers on a word processor. Approximately 2/3 of those responding said fewer than 10% of the sections were currently making use of CAI. Colorado State University, University of Minnesota, Goucher, Clarkson, and Drexel were the only schools responding who used CAI in all sections of composition.

Question 10: What software do you use:

(a) Word processing: 56 different choices were listed among the 126 responses to the question of which word processing software was used. The only word processing programs mentioned more than a few times were Bank Street Writer (13 recommend, 2 not sure); Wordstar (21 recommend, 4 do not recommend); and Applewriter (8 recommend, 2 do not recommend, 1 not sure). The following received at least one negative rating: MacWrite (1); Scripsit (2); EDT (1); Epsilon/Scribble (1); WPS 80 (1); Magic Window (1); Microwriter (1). Usefulness of the word processing program, however, seems highly dependent on context, so I would not consider one negative rating to be in any way conclusive.

(b) Other software: Of 45 responses, there were 32 different programs mentioned, including teachers from 5 colleges who were writing or had already written their own. The only programs mentioned more than twice were Proofreader (Random House), which received three recommendations; Grammatik, which received two recommendations but one non-recommendation; and Writers Workbench, which also received two recommendations and one non-recommendation. One respondent each did not recommend Houghton/Mifflin Language Arts, Writer-Grader, Word 100, IQ Lisp, and Microtext. One respondent each was unsure about recommending Final Word, Homer, Thor, Caret Patch.

Question 11: Have you developed any software on your own?

yes: 48% no: 51% (but 1/3 of those are planning to)

(b) What advice do you have to teachers planning to write their own software:

Responses fell into two categories: cautionary or instructive. The first category either said "don't" or warned that it will take longer than you imagine, at least two years one teacher mentioned, and should not be attempted without release time. If you ignore the cautionary advise and plan to write your own, the main advice from the second category was to link up with CAI specialists rather than trying to do it alone. It is necessary to program <u>well</u>, not just program. Several said a knowledge of PASCAL was essential; others suggested using existing authoring systems. Cynthia Selfe (Michigan Tech) said she is writing a book on this topic and suggested people contact her. Gina Burchard (Texas A&M) suggested people see her paper in the proceedings of the ASEE-CIEC conference, Feb. 1985.

Question 12: What percentage of total class time per semester do you use to teach computer skills:

0% of class time: 18% 1-5% of class time: 48% 6-10% of class time: 22%. The most common answer was 5% of total class time; second most common, 0%.

Question 13: When do you teach the necessary computer skills:

beginning of semester only: 58% throughout semester: 42%

Question 14: What percentage of <u>class time</u> per week do students spend working with computers:

more than 1/4 of those responding said "none."
more than 2/3 fell into category of 5% or less.

Question 15: How much time do you expect students to spend on the computer <u>outside of class:</u>

3/4 of those responding expected 4 hours or less.
The most common answer (33% of respondents) was 2 hours.

Question 16: What support systems are available to your students for computer problems that arise outside of class:

Support ranged from 24-hour access to staffed computer lab to no formal help available. Main support came from student lab aides (28 responses), staff lab aides (40 responses), composition teacher or teaching assistants (12 responses), other students on informal basis (7 responses), and written documentation (written by teacher-5 responses- and published manuals-7 responses). Other support mentioned included phone consultants, faculty volunteers, tutorials by the computing center, formal student help network, paid consultants. Teachers who have not yet begun teaching composition via CAI should note two common problems: (1) possible/probable need to write your own documentation for your particular students; and (2) computer lab technicians who often aren't much help with writing-related questions.

Question 17: How many papers do you assign per semester:

Median response was 8 papers.
Most commonly chosen response was 10 papers.

(b) Is this more or fewer than you assigned without computers:

More: 10 %; Fewer 10%; Same: 80%.
(note: it was not clear in many cases whether the number of drafts required changed as a result of student computer use.)

Question 18: During which stage(s) of writing do students use computers: (numbers = total number of respondents, not percentages)

	<u>Required</u>	<u>suggested</u>
Planning:	14	46
First draft	30	42
Revisions	39	37
Final draft	52	25

Question 19: Rate the usefulness of computers when teaching the following: (numbers = total number of respondents, not percentages)

	extremely	somewhat	little
Grammar	16	21	32
Idea generation	24	28	21
First draft writing	49	27	3
Revision	75	6	0
Proofreading	30	24	6

Question 20: What is the one most needed piece of software which you would like to see developed for use in your classes:

For those of you planning to write software, the market is wide open! Answers to this question included requests for software for the entire writing process from prewriting and idea generation through grammar, organization, proofreading/editing. Teachers also want better word processors and tools for commenting and grading. Overall theme seemed to be "We could use anything that really works." The following works in progress were noted: textbook to go with a word processing course (Judith Bechtel, N. Kentucky U.); process-based writing software (Cynthia Selfe, Michigan Tech.);expert system to function from prewriting through final draft (Linda Meeker, Ball State);software for freshman use (Carol Falk, Concordia); Lancelot (W. Dennis Horn, Clarkson).

Question 21: Was overcoming student fear of computers a problem?

yes: 35% no: 65%
Computer phobia seemed to be not as much a problem for students as for faculty and not as much a problem for students now as it had been in the past.
(b) What suggestions can you give for helping students overcome computer phobia? The most general suggestion seemed to be to let the students get hands-on experience immediately. Suggestions for initial experience ranged from games to word processing, entering text immediately. Several mentioned the importance of initial un-graded exercises until students felt comfortable at the computer, about 4 to 6 hours, it was estimated. Clear documentation, with pictures and non-technical language, was found to help, as was user-friendly software such as PSF Write. Another suggestion was to let other students do the initial instruction, or to have the initial experiences in small groups, so that one student could remember what another might forget. The availability of individual help was essential. Teacher attitude was also important: patient, positive, acknowledging fears, holding hands, praising, and, as Thomas Barker (Texas A&M) suggested, "lying about how easy it is."

Question 22: What is the main advantage computer use offers in teaching:

Answers fell into five major categories: (1) ease of revision; (2) opportunity for patient, individualized feedback; (3) frees teachers

from working with surface details; (4) helps students to see the whole writing process differently; and (5) motivates students to be enthusiastic writers.

Question 23: What is the main disadvantage:

Two main categories emerged: time and money. Time includes time taken away from teaching during students' initial accommodation to machines as well as later time taken discussing machines rather than writing, time taken up by mechanical breakdowns, and, most often mentioned, limited access time students have with computers. Money problems also contribute to lack of access, as well as limited or poor software and hardware, insurance costs, and other supplies.

Question 24: What would you do/are you doing differently to avoid problems you experienced with

(a) students: The main thing teachers learned seems to have been the need to develop more user-friendly software and documentation. Also, a significant number said they now require more group work. Many problems were logistical: developing a better schedule for computer use, limiting size of class, designing a better progression of assignments. One other change was to make class time more efficient by requiring students to have minimum keyboard skills before coming into class and also to require them to have an introduction to computers outside of class.

(b) equipment and software: As expected, the general response was "We need more of each." Teachers realized the need for a regular maintenance agreement, for more staff training, for upgrading equipment (every three years was suggested), for seeking grants. Several commented that they had underestimated the number of printers they would need. Others switched to better word processing software and many, as in the previous answer, said they rewrote commercial documentation. Several changed the lab site or the conditions within labs (location of computers, noise, etc.) Another suggestion for improving efficiency was giving each student his/her own copy of the write protected software used. Teachers realized the need for back-ups: of disks, of teaching methods.

(c) course structure: A number of disagreements surfaced here. Example: "More work needs to be done to integrate computers into the writing process; they should not just be a word processing/convenient tool." vs "We use the computer as a tool; we present it as a tool. I believe this is an effective approach." A related disagreement was between teachers who decided to use more class time for teaching word processing and those who decided to require students to demonstrate competency before entering the course. Others found they needed to vary the number of papers required or the time during the semester at which they required papers to be done on computers. Randy Smye (Sheridan College, Canada) warns teachers not to change their curriculum to accommodate computers until they have personally tested their technological systems for at least two semesters with at least 250-300 students.

Question 25: How would you teach your course in the best of all possible worlds? Describe an ideal situation: students, equipment, syllabus, time frame, etc.:

The ideal world, predictably, is one of unlimited access, motivated students, small classes, effective software, full support for students and teachers, and all the latest technological innovations. As Sally Standiford (College of St. Thomas, MN) wrote: "I would always want one less student, one more computer, one more week, another five minutes, etc." (Within this general fantasy, though, there were a number of interesting variations on the real and the ideal, which I plan to analyze more fully for my November paper.)